HULL

for GM Linden

NJD002 186 690

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May 31, 2013

Mr. Gary Greulich
New Jersey Department of Environmental Protection
Northern Regional Office
7 Ridgedale Avenue
Cedar Knolls, NJ 07927

RE: Remedial Action Progress Report No. 15 for the Industrial #1 Redevelopment Area Portion of the Former General Motors (GM) Linden Assembly Plant, 1016 West Edgar Road, Linden, Union County, New Jersey 07036; DUK059.701.0141.

Dear Mr. Greulich:

On May 28, 2009, the New Jersey Department of Environmental Protection (NJDEP) approved the New Jersey Remedial Action Workplan and RCRA Corrective Measures Proposal Addendum No. 2 (RAWP) for the Industrial #1 Redevelopment Area of the Former GM Linden Assembly Plant (Site; SRP PI# 014755; EA ID# SUB090001; BFO File Number: 20-09-24). The May 28, 2009 approval letter requested Remedial Action Progress Report for the Industrial #1 Redevelopment Area on/by November 30, 2009. Subsequent reports are submitted on a quarterly basis.

This letter constitutes Remedial Action Progress Report No. 15 for the Industrial #1 Redevelopment Area. Hull & Associates, Inc. (Hull) has prepared this report on behalf of Linden Development LLC (Linden Development) to summarize remedial activities completed on the Site between March 1, 2013 and May 31, 2013.

Requirements, according to N.J.A.C. 7:26E-6.6, are shown below in ***bold italics***, with Hull/Linden Development's update following. The report certification required by N.J.A.C. 7:26E-1.5 is included in Attachment A.

1. ***NJDEP requires a description of each planned remedial action***
   - ***i. scheduled to be initiated or completed within the reporting period***
   - ***ii. actually initiated or completed during the reporting period; and***
   - ***iii. scheduled but not initiated or not completed during the reporting period, including the reasons for the noncompliance with the approved schedule.***

Soil

As outlined in the approved RAWP, the remedial activities for soils on the Industrial #1 Redevelopment Area consist of the following:

a. Establishing deed restrictions or environmental covenants to maintain commercial/industrial land use at the Site;

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b. Regrading the site to achieve the grade necessary to support the proposed redevelopment;

c. Constructing building slabs, parking areas and roadways and placing one foot of clean soil over geotextile fabric in future greenspaces to preclude direct contact exposures to future receptor populations and/or provide cover to historical fill material; and

d. Surveying to demonstrate that all areas are covered with engineering controls (e.g., building slabs, parking areas and roadways) or one foot of clean soil.

These remedial activities are directly related to construction activities associated with the future redevelopment at the Site which are dependent upon finalization of agreements with end users. Linden Development has been working throughout the reporting period to establish agreements with end users to ultimately occupy various portions of the Site. Given that end user agreements have not been established, a majority of the construction activities described in the RAWP have not yet been initiated.

Targeted Earthwork

As discussed in previous quarterly reports, Linden Development did initiate targeted earthwork within the northern portion of the Industrial #1 Redevelopment Area. The earthwork included importing additional fill materials, asphalt milling in targeted areas and placement of structural fill to raise the existing grade within the footprint of the proposed northern industrial building. All activities were conducted consistent with the approved RAWP.

During the current reporting period, Linden Development conducted initial activities to prepare the southern portion of the Industrial #1 Redevelopment Area for a future building pad. The activities included using an excavator to pierce the existing concrete slab from the original GM manufacturing building prior to placement of structural fill to raise the grade within the footprint of the proposed southern industrial building. The existing slab was pierced for geotechnical purposes (to provide for drainage if needed below the future structural fill). While piercing the slab, the earthwork contractor encountered a small basement structure measuring approximately 12 feet by 20 feet by 10 feet deep. The structure was encountered beneath the slab in the southeastern portion of the Industrial #1 area, as shown on the attached figure.

The structure contained water which was sampled and subsequently analyzed at Phoenix Environmental laboratories for waste characterization. Based on the laboratory analysis, the water was classified as non-hazardous grey water. On May 21, 2013, the water was pumped from the structure with a vacuum tanker and transported to the Passaic Valley Sewerage Commission. Water disposal documentation is provided in Attachment B. Upon removing the water, the structure was found to be constructed of concrete and had a steel ladder attached to the wall. A small steel tank was found within the structure standing on the concrete floor. The tank was determined to have been scrapped at some point in the past, as there were pipe stubs attached to the tank in several locations that had been previously cut from their connections. No corresponding connection points were observed on the floor or walls of the basement structure. Furthermore, the tank was found with an intentionally-installed hole cut into one end. Based on the analytical results from the grey

water, the tank did not contain substances of concern, as no significantly elevated concentrations were detected. In addition, the floor and walls of the basement structure were observed to be free from staining or other evidence of impact. The basement structure was subsequently backfilled with onsite structural fill to match the surrounding grade. Pictures of the structure, steel tank and backfilling are provided in Attachment B.

Fill Material Import

During the reporting period, fill material was imported from two sources:

1. Granular fill from a construction project located at the intersection of 3rd Street and Frank Sinatra Drive in Hoboken, New Jersey (South Waterfront Site).

2. Granular fill from a construction project located at 74 to 84 Halsey Street in Newark, NJ (Prudential Towers Site).

The material from the South Waterfront Site consists of granular fill (brick, sand, gravel and silt) from a construction project. The fill supplier provided a screening package with material characterization sampling results that indicate no parameters are present above applicable standards. However, the sampling frequency from the screening package was not sufficient to satisfy the requirements of the approved RAWP. Therefore, material from the South Waterfront Site is currently placed in a quarantine area of the Linden Development Site, and the fill supplier is required to conduct additional quality assurance (QA) sampling before the material is used as structural fill. In the unlikely event that any material is deemed inappropriate for use based on the QA sampling results, the fill supplier is required to remove the material from the Linden Development Site. To date, only 1,300 cubic yards of material have been imported from the South Waterfront Site and the analysis of the QA samples is in process. The laboratory results from the QA samples will be presented in a future report.

The material from the Prudential Towers Site consists of sand and gravel from a construction project. Similar to the South Waterfront Site, the fill supplier provided a screening package with material characterization results that indicate no parameters are present above applicable standards, but additional QA sampling is required to meet the sampling frequency requirements from the approved RAWP. To date, approximately 6,100 cubic yards have been imported. The additional laboratory analysis has been completed on 3,000 cubic yards and that material has been formally accepted for structural fill. Those laboratory results are summarized in the fill supplier's certification package provided in Attachment C. The remaining 3,100 cubic yards are quarantined while the laboratory analysis is completed.

Table 1 provides a summary of the materials imported to date. All materials imported to the Industrial #1 Redevelopment Area during the reporting period were stockpiled for future use, with the exception of the quarantined materials discussed above.

Groundwater

The RAWP for the Industrial #1 Redevelopment Area was limited to soils. Groundwater actions, if any, are related to resolution of the disputed groundwater issue between the Site and neighboring Merck Pharmaceutical facility. NJDEP recently reviewed Linden Development's latest investigation report prepared by Hull related to the disputed

groundwater issue (i.e., MW-97 Monitoring Well Cluster Installation and Supplemental Groundwater Sampling Report, July 2012). NJDEP issued a technical comment letter dated November 30, 2012 outlining the findings from the agency review of the July 2012 report. NJDEP's letter indicates that no sources have been identified on the Linden Development property that created the groundwater contamination in the dispute. The letter requests that Linden Development perform an additional year of groundwater monitoring in the southern portion of the site. A work plan for the groundwater sampling was submitted in late-March 2013 and is currently under NJDEP review.

Storm Sewer (AOI-18)
Remedial activities associated with AOI-18 are complete, as documented in Remedial Action Progress Report No. 1 (November 2009).

2. ***NJDEP requires discussion of problems and delays in the implementation of the RAWP, which should include proposals for corrections.***

As discussed above, remedial activities are directly related to construction activities associated with the future redevelopment at the Site which are dependent upon establishment of agreements with end users. Given current economic conditions, a majority of the construction activities described in the RAWP will not be implemented until redevelopment deals with end users are established.

Linden Development is continuing to pursue agreements with end users for the Industrial #1 Redevelopment Area. In the interim, conditions at the Site are stable given that GM's original cover types (asphalt, building pads, etc.) remain intact across a majority of the area. In portions of the site where Linden Development is currently placing structural fill to support future building construction, site contractors are employing best management practices and are complying with applicable laws/regulations.

3. ***NJDEP requires proposals for a deviation from, or modification to, the approved RAWP.***

No deviations from, or modifications to, the approved RAWP are planned or required at this time.

4. ***NJDEP requires submittal of a revised schedule pursuant to N.J.A.C. 7:26E-6.5, to reflect the changes as noted in 1 through 3 above.***

As noted above, establishment of agreements with end users is the driving force behind the redevelopment of the Site and implementation of the RAWP. Linden Development continues to pursue agreements with end users and will provide updates in subsequent quarterly reports. The next progress report is scheduled to be submitted on or before August 31, 2013.

5. ***NJDEP requires an updated status of all permit applications relative to the critical path schedule.***

The permits required for initiation of the remedial activities are summarized below.

Permit/Approval Type	Status	Notes
Planning Board Approval	Approved 11/17/08	Site plan approved by City of Linden Planning Board
NPDES Permit (Storm Water)	Approved 9/16/09	NPDES Permit No. 0088323
Soil Conservation District	Approved 9/16/09	Approved by Somerset-Union Conservation District

6. ***NJDEP requires a listing of each remedial action to be performed during the next reporting period.***

Linden Development anticipates continuing to import structural fill material during the next reporting period.

Additional earthwork to support an industrial building in the southern portion of the site may also be initiated, depending on the outcome of ongoing negotiations with site end users. Linden Development will continue to provide updates to the NJDEP Case Manager as details associated with various redevelopment negotiations are finalized.

7. ***NJDEP requires costs of each remedial action***
   - ***i. Annual summary of all remedial action costs incurred to date; and***
   - ***ii. Revised cost estimate for remedial actions remaining to be performed.***

The bulk of construction and remedial implementation has not yet commenced. Costs that have been incurred include approximately $7,000 for AOI-18 storm sewer cleaning, approximately $15,000 for UST closure activities and approximately $370,000 for earthwork activities to date.

The overall cost estimate for completing remedial activities remains consistent with that presented in the RAWP (i.e., approximately $11,900,000 for earthwork and construction of engineering controls).

8. ***NJDEP requires a tabulation of sampling results (according to N.J.A.C. 7:26E-3.13(c)3) received during the reporting period and a summary of the data and any conclusions, presented in a format consistent with N.J.A.C. 7:26E-4.8.***

No sampling results were generated at the Site during the reporting period. The fill supplier's certification package with laboratory reports related to QA sampling of fill material from the Prudential Towers Site is provided on the compact disc in Attachment C.

9. ***NJDEP requires a summary of active groundwater remedial actions***
   - ***i. groundwater elevation maps with groundwater flow shown immediately before and during active groundwater remediation;***
   - ***ii. graphs depicting changes in concentrations over time for all impacted wells as well as all down-gradient wells;***
   - ***iii. summary of volume of water treated since last reporting period and the total volume treated since active remedial action commenced; and***
   - ***iv. Summary of groundwater contamination, indicating either that contamination remains above applicable standards (include a proposal***

detailing additional remedial actions) or that concentrations are below applicable standards.

The RAWP for the Industrial #1 Redevelopment Area was limited to soils only. Therefore, this section is not applicable.

10. NJDEP requires a summary of natural remediation groundwater remedial actions
- ***i. Summary table of the groundwater monitoring results collected; and***
- ***ii. Conclusions whether data indicate that natural remediation is no longer appropriate (must then also submit a revised RAWP)***

The RAWP for the Industrial #1 Redevelopment Area was limited to soils only. Therefore, this section is not applicable.

11. NJDEP requires a description of all wastes generated as a result of the remedial action
- ***i. Tabulation of waste characterization samples collected, including the physical state of the material, volume, number of samples, analyses performed and results;***
- ***ii. Listing of types and quantities of waste generated by the remedial action during the reporting period as well as to date;***
- ***iii. Name of the disposal facility used;***
- ***iv. Transporters' dates of disposal; and***
- ***v. Manifest numbers of each waste shipment.***

As discussed under item 1 above, accumulated grey water that was encountered in the basement structure discovered in May 2013 was evacuated with a vacuum tanker and transported to the Passaic Valley Sewerage Commission. Laboratory results for the water characterization sampling and water disposal documentation are provided in Attachment B. Disposal facility information, manifest numbers and volumes are summarized below.

Waste Description	Volume	Disposal Dates	Manifest Numbers	Disposal Facility
Grey water (accumulated storm water)	21,000 gallons	5/21/13	0299562 0299563 0299564	Passaic Valley Sewerage Commission 600 Wilson Ave. Newark, NJ 07105

12. NJDEP requires that any additional support documentation that is available also be provided (photos, etc.).

Given that the majority of the remedial activities have not yet been implemented, no additional support documentation is available.

The next scheduled remedial action progress report will include remedial actions completed between June 1, 2013 and August 31, 2013. Please feel free to contact Bill Dennis at (412) 446-0315 with any questions regarding the update provided herein.

Sincerely,

W H Dennis III

Bill Dennis
Senior Project Manager

Attachments

ct: Brian Strohl – Linden Development, LLC
Clifford Ng – U.S. EPA Region 2
Joseph M. Sorge – J.M. Sorge, Inc.

TABLES

LINDEN DEVELOPMENT LLC SITE (FORMER GM LINDEN ASSEMBLY PLANT)
1016 WEST EDGAR ROAD, LINDEN, NJ
QUARTERLY REPORT NO. 15 - INDUSTRIAL NO. 1 REDEVELOPMENT AREA

TABLE 1
SUMMARY OF FILL MATERIALS IMPORTED AS OF MID-MAY 2013

Import Date	Source	Supplier	Quantity [1.]	Material Type	Anticipated Site Use
Soils and Crushed Concrete - Imported Prior to Current Reporting Period [2.]					
Pre-February 2010	City of Rahway, NJ - Former firing range soil stockpile	City of Rahway, NJ	800 cy	Soils	Structural fill to be covered by engineering controls
Pre-February 2010	City of Linden, NJ - 2300 S. Wood Street - soil stockpile from City's Parks Dept.	City of Linden, NJ	2,865 cy	Soils	Structural fill to be covered by engineering controls
April / May 2010	New 121st. Police Precinct -970 Sanders Street, Staten Island, NY - excess soils from construction project	Pure Earth, Inc.	2,973 cy	Soils	Structural fill to be covered by engineering controls
April / May 2010	Newark Public Schools Stadium - excess soils from construction project	AWT Environmental Services, Inc.	3,397 cy	Soils	Structural fill to be covered by engineering controls
May 2010	Newark Brick Tower - Residential Tower Demolition - processed backfill material	DEMREX and Altchem Environmental	15,680 cy	Soils/Crushed Concrete	Structural fill to be covered by engineering controls
June 2010	New 121st. Police Precinct -970 Sanders Street, Staten Island, NY - excess soils from construction project	Pure Earth, Inc.	1,178 cy	Soils	Structural fill to be covered by engineering controls
June 2010	City of Linden, NJ - Library Site - excess soils from construction project	City of Linden, NJ	2,300 cy	Soils	Structural fill to be covered by engineering controls
July 2010	New 121st. Police Precinct -970 Sanders Street, Staten Island, NY - excess soils from construction project	Pure Earth, Inc.	1,516 cy	Soils	Structural fill to be covered by engineering controls
8/24/10	New 121st. Police Precinct -970 Sanders Street, Staten Island, NY - excess soils from construction project	Pure Earth, Inc.	658 cy	Soils	Structural fill to be covered by engineering controls
9/23/10	New 121st. Police Precinct -970 Sanders Street, Staten Island, NY - excess soils from construction project	Pure Earth, Inc.	567 cy	Soils	Structural fill to be covered by engineering controls
9/27/2010	Weldon Materials - crushed stone (virgin source)	Weldon Materials	142 cy	Crushed Stone	Unrestricted (Virgin Source Material)
9/29/2010	Weldon Materials - crushed stone (virgin source)	Weldon Materials	55 cy	Crushed Stone	Unrestricted (Virgin Source Material)
10/5/10	New 121st. Police Precinct -970 Sanders Street, Staten Island, NY - excess soils from construction project	Pure Earth, Inc.	699 cy	Soils	Structural fill to be covered by engineering controls
10/19/10	New 121st. Police Precinct -970 Sanders Street, Staten Island, NY - excess soils from construction project	Pure Earth, Inc.	655 cy	Soils	Structural fill to be covered by engineering controls
12/15/10	New 121st. Police Precinct -970 Sanders Street, Staten Island, NY - excess soils from construction project	Pure Earth, Inc.	328 cy	Soils	Structural fill to be covered by engineering controls
12/16/10	New 121st. Police Precinct -970 Sanders Street, Staten Island, NY - excess soils from construction project	Pure Earth, Inc.	165 cy	Soils	Structural fill to be covered by engineering controls
Dec 2011 through 2/16/12	MTA/LIRR East Side Access Project - native sand and gravel from installation of new railroad tunnels	Impact Environmental	12,710 cy	Soils	Unrestricted (Virgin Source Material)

LINDEN DEVELOPMENT LLC SITE (FORMER GM LINDEN ASSEMBLY PLANT)
1016 WEST EDGAR ROAD, LINDEN, NJ
QUARTERLY REPORT NO. 15 - INDUSTRIAL NO. 1 REDEVELOPMENT AREA

TABLE 1
SUMMARY OF FILL MATERIALS IMPORTED AS OF MID-MAY 2013

Import Date	Source	Supplier	Quantity [1]	Material Type	Anticipated Site Use
2/7/12 and 2/8/12	City of Linden, NJ - 2300 S. Wood Street - soil stockpile from City's Parks Dept.	City of Linden, NJ	681 cy	Soils	Structural fill to be covered by engineering controls
2/17/12 through 5/15/12	MTA/LIRR East Side Access Project - native sand and gravel from installation of new railroad tunnels	Impact Environmental	15,019 cy	Soils	Unrestricted (Virgin Source Material)
2/17/12 through 5/15/12	Impact Recovery and Reuse center (NJDEP Class B Recycling Facility)	Impact Environmental	18,877 cy	Soils	Structural fill to be covered by engineering controls
5/16/12 through 8/17/12	400 Park Avenue South New York, NY	Impact Environmental	387 cy [3]	Soils	Unrestricted (Virgin Source Material)
5/16/12 through 8/17/12	Impact Recovery and Reuse center (NJDEP Class B Recycling Facility)	Impact Environmental	63,449 cy	Soils	Structural fill to be covered by engineering controls
5/16/12 through 8/17/12	MTA/LIRR East Side Access Project - native sand and gravel from installation of new railroad tunnels	Impact Environmental	12,765 cy	Soils	Unrestricted (Virgin Source Material)
8/18/12 through 11/21/12	400 Park Avenue South New York, NY	Impact Environmental	4,582 cy [4]	Soils	Unrestricted (Virgin Source Material)
8/18/12 through 11/21/12	Impact Recovery and Reuse center (NJDEP Class B Recycling Facility)	Impact Environmental	8,913 cy	Soils	Structural fill to be covered by engineering controls
11/22/12 through 2/15/13	400 Park Avenue South New York, NY	Impact Environmental	525 cy [5]	Soils	Unrestricted (Virgin Source Material)
11/22/12 through 2/15/13	Impact Recovery and Reuse center (NJDEP Class B Recycling Facility)	Impact Environmental	1,269 cy	Soils	Structural fill to be covered by engineering controls
		Subtotal:	***173,154 cy***		
Soils and Crushed Concrete - Imported During Current Reporting Period					
2/16/13 through 5/14/13	South Waterfront - 3rd Street and Frank Sinatra Dr., Hoboken, NJ - excess soils from construction project.	Impact Environmental	1,291 cy [6]	Soils	Structural fill to be covered by engineering controls; Material is currently placed in a quarantine area pending results of additional quality assurance sampling that was conducted to meet the required sampling frequency specified in the RAWP.
2/16/13 through 5/14/13	Prudential Towers - 74 to 84 Halsey Street, Newark, NJ - excess soils from construction project.	Impact Environmental	3,000 cy	Soils	Structural fill to be covered by engineering controls

TABLE 1
SUMMARY OF FILL MATERIALS IMPORTED AS OF MID-MAY 2013

Import Date	Source	Supplier	Quantity [1]	Material Type	Anticipated Site Use
2/16/13 through 5/14/13	Prudential Towers - 74 to 84 Halsey Street, Newark, NJ - excess soils from construction project.	Impact Environmental	3,108 cy	Soils	Structural fill to be covered by engineering controls; Material is currently placed in a quarantine area pending results of additional quality assurance sampling that was conducted to meet the required sampling frequency specified in the RAWP.
		Subtotal:	***7,399 cy***		
	Total for Soils and Crushed Concrete Imported to Date:		**180,553 cy**		
Asphalt Millings - Imported Prior to Current Reporting Period					
Pre-February 2010	City of Linden, NJ - Residential Streets - asphalt millings	City of Linden, NJ	1,434 cy	Asphalt Millings	Subgrade material for future paved areas
		Subtotal:	***1,434 cy***		
Asphalt Millings - Imported During Current Reporting Period					
NA	None during current reporting period	NA	0 cy		
		Subtotal:	***0 cy***		
	Total for Asphalt Millings Imported to Date:		**1,434 cy**		

Notes:
1. Quantity estimated based on import weight tickets and a conversion factor of 1.5 tons per cubic yard.
2. Materials imported prior to 2011 were stockpiled in the Industrial #1 Redevelopment Area, but the final disposition at the overall site was not yet determined. As such, the pre-2011 materials are included in the volume totals for both the Retail Redevelopment Area and Industrial #1 Redevelopment Area. Starting in 2011, imported materials were placed directly within the specific redevelopment area where the material will ultimately be used.
3. The imported material from this source totaled 773 cy and was stockpiled between the Industrial #1 and Retail Redevelopment Areas. The volume shown is 50% of the total volume imported (the other 50% was allocated to the Retail Redevelopment Area).
4. The imported material from this source totaled 9,164 cy and was stockpiled between the Industrial #1 and Retail Redevelopment Areas. The volume shown is 50% of the total volume imported (the other 50% was allocated to the Retail Redevelopment Area).
5. The imported material from this source totaled 2,713 cy and was stockpiled between the Industrial #1 and Retail Redevelopment Areas. The volume shown is the estimated portion stockpiled in Industrial #1. The balance (estimated 2,188 cy) was stockpiled in the Retail Redevelopment Area.
6. The imported material from this source totaled 2,583 cy and was stockpiled between the Industrial #1 and Retail Redevelopment Areas. The volume shown is the estimated portion stockpiled in Industrial #1. The balance (estimated 1,291 cy) was stockpiled in the Retail Redevelopment Area.

FIGURE

0 62.5 125 250 Feet

1:3,000

MW-70S, MW-70W, MW-45B, MW-45W, BEC-10S, BEC-9S, BEC-4D, BEC-11S, MW-14W, MW-14S, BEC-14S, MW-14B2, BEC-8S, BEC-5S, MW-68S, MW-68W, BEC-1SR, BEC-1S, BEC-1D, MW-1D, BEC-12S, BEC-3D, MW-86S, BEC-2S, MW-53S, MW-87S, BEC-4S, MW-52B, MW-52S, MW-81S, MW-84S, BEC-3S, BEC-2D, MW-51S, MW-52W, MW-84W, MW-16W, MW-16S, MW-16B, BEC-13S, BEC-7S, MW-82S, BEC-6S, MW-83S, MW-15B, MW-15B2, MW-15S, MW-15W, BEC-5D, MW-79S, MW-79W, MW-63S, MW-63B, MW-63W, MW-89W, MW-89B2, MW-50S, MW-50W, BEC-6D, MW-50B, BEC-1B, MW-69W, MW-69S, MW-44S, MW-44W, MW-44B, MW-88W, MW-55B, MW-55W, MW-55S, BEC-7D, BEC-2B, MW-43B, MW-43W, MW-43S, MW-43D, MW-42W, MW-78S, MW-78W, MW-64B2, MW-64W, MW-49S, MW-49B, MW-49W, MW-49D, MW-49BD, MW-49B4, MW-37B, MW-37W, MW-97B, MW-97D, MW-97W, MW-36W, MW-36D, MW-9B, MW-9W, MW-21S, MW-21S B-1, BEC-4B, BEC-9D, MW-56B4, MW-56W, MW-61W, MW-61B, MW-61S, MW-60B3, MW-60W, MW-35W, MW-35D, MW-24S B-4, MW-25S B-5A, MW-25S, MW-25S B-5B, MW-25S B-5, MW-22S B-1, MW-22S, MW-22W, MW-17W, MW-17S, MW-17B, MW-46W, MW-46D, MW-26S B-1, MW-26S, MW-54B, MW-54W, MW-26W

Location of Concrete Basement Structure Encountered in May 2013 (12 feet x 20 feet x 10 feet deep)

- Approximate Site Boundary
- Retail Redevelopment Area
- Industrial #1 Redevelopment Area
- Industrial #2 Redevelopment Area
- Residential Redevelopment Area

Sample Locations

- Weathered Bedrock Monitoring Well
- Shallow Overburden Monitoring Well
- Deep Overburden Monitoring Well
- Bedrock Flow Zone #4 Monitoring Well
- Bedrock Flow Zone #3 Monitoring Well
- Bedrock Flow Zone #2 Monitoring Well
- Bedrock Flow Zone #1 Monitoring Well
- Abandoned Monitoring Wells

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May 2013

Quarterly Report No. 15 for Industrial #1 Redevelopment Area
Former GM Linden Assembly Plant

Industrial No. 1 Redevelopment Area with Location of Basement Structure Encountered May 2013

1016 West Edgar Road (U.S. Route 1&9)
Linden, Union County, New Jersey

Figure 1

Produced using ArcGIS 10.0 SP1

File Name: DUK059_34_Fig01_BsmtStrct.mxd

Edited: 5/29/2013 By: jeller

ATTACHMENT A

Report Certification

Certification

Linden Development, LLC
ISRA Case Number E20040531

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, to the best of my knowledge, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statue, I am personally liable for the penalties.

Linden Development, LLC
By: _____
William J. DeBoer, Executive V.P.

Date: 6/3/13

Sworn to and subscribed to before me on this 3rd day of June, 2013

_____
Notary

NOTARY PUBLIC STATE OF OHIO

Deena E. Griest
Notary Public-State of Ohio
My Commission Expires
May 29, 2017

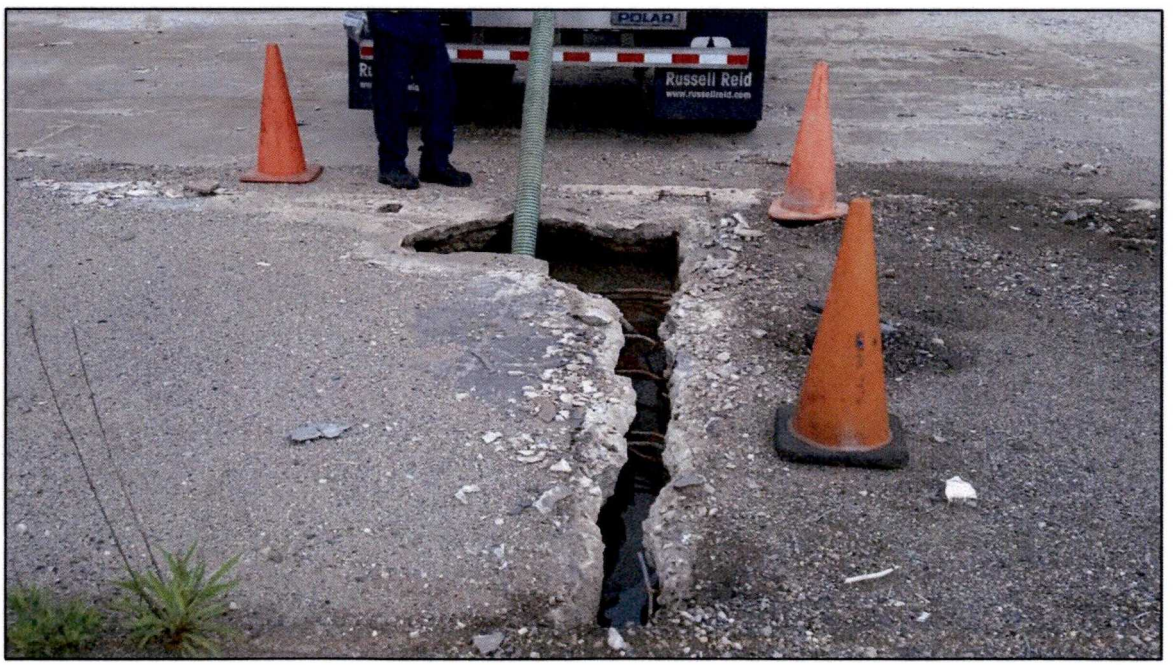
ATTACHMENT B

Photographs of Basement Structure
and
Water Sampling and Disposal Documentation

Quarterly Report No. 15 for Industrial #1 Redevelopment Area
Attachment B
Photographs of Basement Structure Encountered May 2013

PHOTO 1 – Piercing the existing slab with the pneumatic hammer.

PHOTO 2 – Water extraction from the basement structure with vacuum tanker.



Quarterly Report No. 15 for Industrial #1 Redevelopment Area
Attachment B
Photographs of Basement Structure Encountered May 2013

PHOTO 3 – Scrapped tank and ladder in basement during water extraction

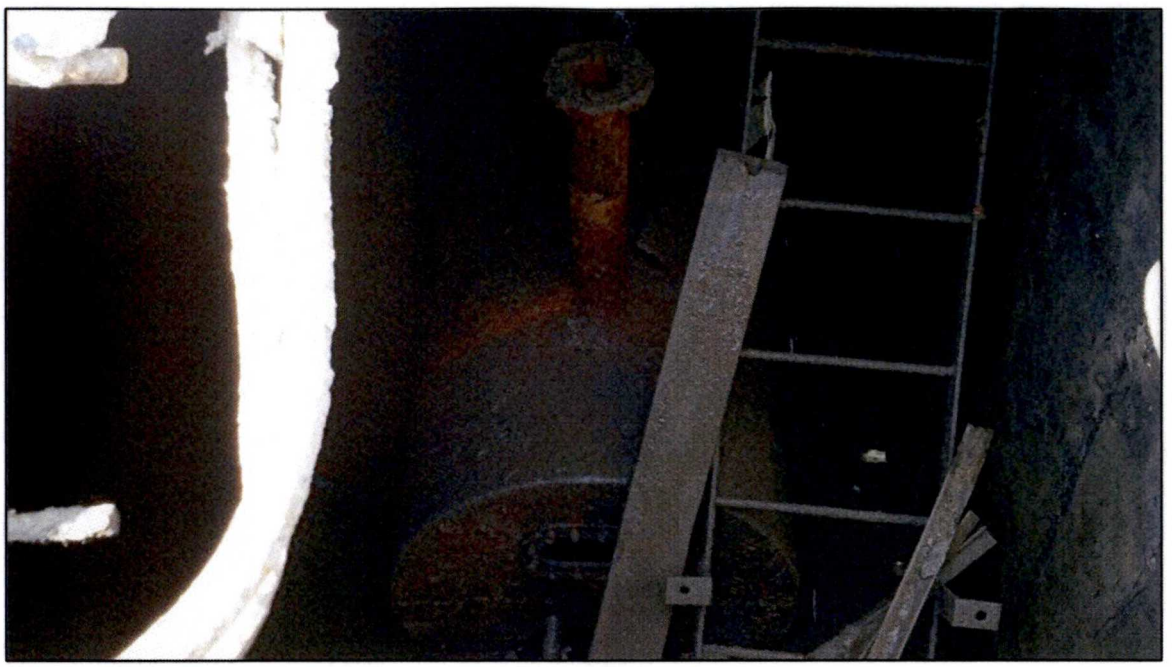


PHOTO 4 – Scrapped tank in basement following water extraction

Quarterly Report No. 15 for Industrial #1 Redevelopment Area
Attachment B
Photographs of Basement Structure Encountered May 2013

PHOTO 5 – Scrapped tank removed from basement; note the hole intentionally cut into the end of the tank at some point in the past.

PHOTO 6 – Pneumatic hammer piercing floor of basement; note concrete slab (basement ceiling) now sitting in the basement.

Quarterly Report No. 15 for Industrial #1 Redevelopment Area
Attachment B
Photographs of Basement Structure Encountered May 2013

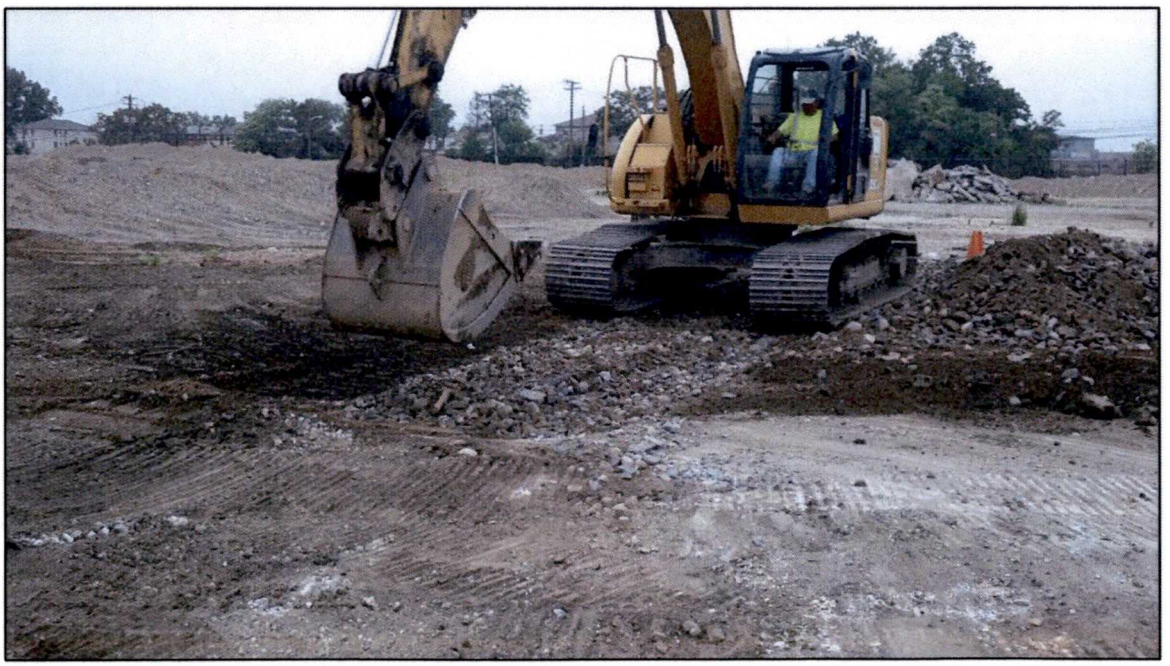
PHOTO 7 – Pneumatic hammer breaking concrete slab (basement ceiling) for reuse as structural fill; note structural fill stockpiles.

PHOTO 8 – Pneumatic hammer piercing floor of basement.

Quarterly Report No. 15 for Industrial #1 Redevelopment Area
Attachment B
Photographs of Basement Structure Encountered May 2013

PHOTO 9 – Basement structure partially backfilled.

PHOTO 10 – Basement structure fully backfilled.



PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

May 07, 2013

FOR: Attn: Mr Jeff Bogoian
Impact Envionmental
170 Keyland Court
Bohemia NY 11716

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		04/19/13	11:30
Location Code:	IMPACT	Received by:	DL	04/19/13	21:37
Rush Request:	72 Hour	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBD62276
Phoenix ID: BD62276

Project ID: GM LINDEN
Client ID: LINDEN PIT

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Date/Time	By	Reference	
Arsenic	0.005	0.004	0.001	mg/L	04/24/13	LK	SW6010/E200.7	
Cadmium	< 0.001	0.001	0.0002	mg/L	04/24/13	LK	SW6010/E200.7	
Chromium	0.006	0.001	0.0009	mg/L	04/24/13	LK	SW6010/E200.7	
Copper	0.039	0.005	0.001	mg/L	04/24/13	LK	SW6010/E200.7	
Mercury	< 0.003	0.003		mg/L	04/23/13	JA/GL	SW7470/245.1	B
Molybdenum	0.217	0.005	0.01	mg/L	04/24/13	LK	SW6010/E200.7	
Nickel	0.005	0.001	0.0005	mg/L	04/24/13	LK	SW6010/E200.7	
Lead	0.049	0.002	0.001	mg/L	04/24/13	LK	SW6010/E200.7	
Selenium	< 0.010	0.010	0.01	mg/L	04/24/13	LK	SW6010/E200.7	
Zinc	0.053	0.002	0.001	mg/L	04/24/13	LK	SW6010/E200.7	
B.O.D./5 day	< 4.0	4.0		mg/L	04/19/13 21:37	RS/RM	SM5210B	
C.O.D.	42	10		mg/L	04/24/13	JL	SM5220 D	
Corrosivity	Negative			Pos/Neg	04/20/13	BS/KDB	SW846	1
Flash Point	>200	200		degree F	04/22/13	Y	SW1010	
Ignitability	Passed	140		degree F	04/22/13	Y	SW846	1
Ammonia as Nitrogen	0.05	0.02	0.02	mg/L	04/23/13	WHM	E350.1	
Ortho-Phosphate-P	0.04	0.01	0	mg/L	04/22/13 17:11	MK	SM4500PF	
pH	9.29	0.10		pH Units	04/20/13 06:11	BS/KDB	4500-H B/9040	1
Reactivity Cyanide	< 1.0	1.0	0.005	mg/L	04/22/13	JL/GD	SW 846-7.3	1
Reactivity Sulfide	< 0.4	0.4		mg/L	04/22/13	JL/GD	SW846-7.3	1
Reactivity	Negative			Pos/Neg	04/22/13	JL/GD	SW 846-7.3	1
Nitrogen Tot Kjeldahl	0.82	0.10	0.02	mg/L	04/23/13	WHM	E351.1	
Total Organic Carbon	14	1.0		mg/L	04/23/13	JL	SM 5310C	
O&G, Non-polar Material	< 1.4	1.4		mg/L	04/23/13	MSF	E1664A	
Total Suspended Solids	7.0	5.0		mg/L	04/22/13	CL/M/K	SM2540D	
Total Solids	650	50		mg/L	04/22/13	KG	SM2540B	
Volatile Suspended Solids	6	5		mg/L	04/22/13	CL/M/K	SM209D	1
Volatile Solids	170	50		mg/L	04/22/13	KG	S2540E/E160.4	1

Project ID: GM LINDEN
Client ID: LINDEN PIT

Phoenix I.D.: BD62276

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Date/Time	By	Reference	
Mercury Digestion	Completed				04/22/13	X/X	SW7470/245.1	
PCB Extraction (2 Liter)	Completed				04/22/13	BT	SW3510	
Extraction for Pest (2 Liter)	Completed				04/22/13	BT	SW3510	
Semi-Volatile Extraction	Completed				04/22/13	I/K/D	SW3520	
Total Metals Digestion	Completed				04/22/13	AG		
Dioxin	Pending			pg/L			1613B/8280	S
Polychlorinated Biphenyls								
PCB-1016	ND	0.050	0.050	ug/L	04/24/13	KCA	E608	
PCB-1221	ND	0.050	0.050	ug/L	04/24/13	KCA	E608	
PCB-1232	ND	0.050	0.050	ug/L	04/24/13	KCA	E608	
PCB-1242	ND	0.050	0.050	ug/L	04/24/13	KCA	E608	
PCB-1248	ND	0.050	0.050	ug/L	04/24/13	KCA	E608	
PCB-1254	0.050	0.050	0.050	ug/L	04/24/13	KCA	E608	
PCB-1260	ND	0.050	0.050	ug/L	04/24/13	KCA	E608	
QA/QC Surrogates								
% DCBP	66			%	04/24/13	KCA	E608	
% TCMX	56			%	04/24/13	KCA	E608	
Pesticides								
4,4' -DDD	ND	0.008	0.008	ug/L	04/24/13	MH	E608	
4,4' -DDE	ND	0.002	0.002	ug/L	04/24/13	MH	E608	
4,4' -DDT	ND	0.009	0.009	ug/L	04/24/13	MH	E608	
a-BHC	ND	0.002	0.002	ug/L	04/24/13	MH	E608	
Aldrin	ND	0.002	0.002	ug/L	04/24/13	MH	E608	
b-BHC	ND	0.005	0.005	ug/L	04/24/13	MH	E608	
Chlordane	ND	0.010	0.010	ug/L	04/24/13	MH	E608	
d-BHC	ND	0.002	0.002	ug/L	04/24/13	MH	E608	
Dieldrin	ND	0.002	0.002	ug/L	04/24/13	MH	E608	
Endosulfan I	ND	0.008	0.008	ug/L	04/24/13	MH	E608	
Endosulfan II	ND	0.002	0.002	ug/L	04/24/13	MH	E608	
Endosulfan sulfate	ND	0.008	0.008	ug/L	04/24/13	MH	E608	
Endrin	ND	0.005	0.005	ug/L	04/24/13	MH	E608	
Endrin aldehyde	ND	0.008	0.008	ug/L	04/24/13	MH	E608	
g-BHC	ND	0.002	0.002	ug/L	04/24/13	MH	E608	
Heptachlor	ND	0.014	0.014	ug/L	04/24/13	MH	E608	
Heptachlor epoxide	ND	0.005	0.005	ug/L	04/24/13	MH	E608	
Toxaphene	ND	0.20	0.20	ug/L	04/24/13	MH	E608	
QA/QC Surrogates								
% DCBP	70			%	04/24/13	MH	E608	
% TCMX	79			%	04/24/13	MH	E608	
Volatiles								
1,1,1-Trichloroethane	ND	1.0	0.50	ug/L	04/23/13	R/T	E624	
1,1,2,2-tetrachloroethane	ND	1.0	0.50	ug/L	04/23/13	R/T	E624	
1,1,2-Trichloroethane	ND	1.0	0.50	ug/L	04/23/13	R/T	E624	
1,1-Dichloroethane	ND	1.0	0.50	ug/L	04/23/13	R/T	E624	
1,1-Dichloroethene	ND	1.0	0.50	ug/L	04/23/13	R/T	E624	
1,2-Dichlorobenzene	ND	1.0	0.50	ug/L	04/23/13	R/T	E624	
1,2-Dichloroethane	ND	1.0	0.50	ug/L	04/23/13	R/T	E624	

Project ID: GM LINDEN
Client ID: LINDEN PIT

Phoenix I.D.: BD62276

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Date/Time	By	Reference	
1,2-Dichloropropane	ND	1.0	0.50	ug/L	04/23/13	R/T	E624	
1,3-Dichlorobenzene	ND	1.0	0.50	ug/L	04/23/13	R/T	E624	
1,4-Dichlorobenzene	ND	1.0	0.50	ug/L	04/23/13	R/T	E624	
2-Chloroethyl vinyl ether	ND	10	10	ug/L	04/23/13	R/T	E624	
Acrolein	ND	50	50	ug/L	04/23/13	R/T	E624	
Benzene	ND	1.0	0.50	ug/L	04/23/13	R/T	E624	
Bromodichloromethane	ND	1.0	0.50	ug/L	04/23/13	R/T	E624	
Bromoform	ND	1.0	0.50	ug/L	04/23/13	R/T	E624	
Bromomethane	ND	1.0	0.50	ug/L	04/23/13	R/T	E624	
Carbon tetrachloride	ND	1.0	0.50	ug/L	04/23/13	R/T	E624	
Chlorobenzene	ND	1.0	0.50	ug/L	04/23/13	R/T	E624	
Chloroethane	ND	1.0	0.50	ug/L	04/23/13	R/T	E624	
Chloroform	ND	1.0	0.50	ug/L	04/23/13	R/T	E624	
Chloromethane	ND	1.0	0.50	ug/L	04/23/13	R/T	E624	
cis-1,2-Dichloroethene	ND	1.0	0.50	ug/L	04/23/13	R/T	E624	
cis-1,3-Dichloropropene	ND	1.0	0.50	ug/L	04/23/13	R/T	E624	1
Dibromochloromethane	ND	1.0	0.50	ug/L	04/23/13	R/T	E624	
Ethylbenzene	ND	1.0	0.50	ug/L	04/23/13	R/T	E624	
m&p-Xylene	ND	1.0	0.84	ug/L	04/23/13	R/T	E624	1
Methyl t-butyl ether (MTBE)	ND	2.0	0.50	ug/L	04/23/13	R/T	E624	1
Methylene chloride	ND	1.0	0.50	ug/L	04/23/13	R/T	E624	
o-Xylene	ND	1.0	0.90	ug/L	04/23/13	R/T	E624	1
Tetrachloroethene	ND	1.0	0.50	ug/L	04/23/13	R/T	E624	
Toluene	ND	1.0	0.50	ug/L	04/23/13	R/T	E624	
trans-1,2-Dichloroethene	ND	1.0	0.50	ug/L	04/23/13	R/T	E624	
trans-1,3-Dichloropropene	ND	1.0	0.50	ug/L	04/23/13	R/T	E624	
Trichloroethene	ND	1.0	0.50	ug/L	04/23/13	R/T	E624	
Trichlorofluoromethane	ND	1.0	0.50	ug/L	04/23/13	R/T	E624	
Vinyl chloride	ND	1.0	0.50	ug/L	04/23/13	R/T	E624	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	99			%	04/23/13	R/T	70 - 130 %	
% Bromofluorobenzene	90			%	04/23/13	R/T	70 - 130 %	
% Dibromofluoromethane	107			%	04/23/13	R/T	70 - 130 %	
% Toluene-d8	100			%	04/23/13	R/T	70 - 130 %	
Semivolatiles by (SIM)								
Acenaphthene	0.25	0.050	0.050	ug/L	04/23/13	DD	E625/E625SIM	
Acenaphthylene	ND	0.050	0.050	ug/L	04/23/13	DD	E625/E625SIM	
Benzo(a)anthracene	0.52	0.040	0.040	ug/L	04/23/13	DD	E625/E625SIM	
Benzo(a)pyrene	0.59	0.050	0.050	ug/L	04/23/13	DD	E625/E625SIM	
Benzo(b)fluoranthene	0.79	0.050	0.050	ug/L	04/23/13	DD	E625/E625SIM	
Benzo(g,h,i)perylene	ND	3.0	3.0	ug/L	04/23/13	DD	E625/E625SIM	
Benzo(k)fluoranthene	0.29	0.050	0.050	ug/L	04/23/13	DD	E625/E625SIM	
Bis(2-ethylhexyl)phthalate	ND	1.6	1.6	ug/L	04/23/13	DD	E625/E625SIM	B
Chrysene	0.57	0.050	0.050	ug/L	04/23/13	DD	E625/E625SIM	
Dibenz(a,h)anthracene	0.13	0.010	0.010	ug/L	04/23/13	DD	E625/E625SIM	
Hexachlorobenzene	ND	0.060	0.060	ug/L	04/23/13	DD	E625/E625SIM	
Hexachlorobutadiene	ND	0.60	0.60	ug/L	04/23/13	DD	E625/E625SIM	
Hexachloroethane	ND	2.4	2.4	ug/L	04/23/13	DD	E625/E625SIM	
Indeno(1,2,3-c,d)pyrene	0.46	0.050	0.050	ug/L	04/23/13	DD	E625/E625SIM	

Project ID: GM LINDEN
Client ID: LINDEN PIT

Phoenix I.D.: BD62276

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Date/Time	By	Reference	
Pentachlorophenol	ND	0.80	0.80	ug/L	04/23/13	DD	E625/E625SIM	
Phenanthrene	0.42	0.050	0.050	ug/L	04/23/13	DD	E625/E625SIM	B*
Pyridine	ND	5.0	1.2	ug/L	04/23/13	DD	E625/E625SIM	
QA/QC Surrogates								
% 2,4,6-Tribromophenol	89			%	04/23/13	DD	15 - 130 %	
% 2-Fluorobiphenyl	83			%	04/23/13	DD	30 - 130 %	
% 2-Fluorophenol	68			%	04/23/13	DD	15 - 130 %	
% Nitrobenzene-d5	94			%	04/23/13	DD	30 - 130 %	
% Phenol-d5	65			%	04/23/13	DD	15 - 130 %	
% Terphenyl-d14	72			%	04/23/13	DD	30 - 130 %	
Semivolatiles by (SIM)								
1,2,4-Trichlorobenzene	ND	5.0	1.5	ug/L	04/24/13	DD	E625/E625SIM	
1,2-Dichlorobenzene	ND	5.0	1.4	ug/L	04/24/13	DD	E625/E625SIM	1
1,2-Diphenylhydrazine	ND	10		ug/L	04/24/13	DD	E625/E625SIM	1
1,3-Dichlorobenzene	ND	5.0	1.5	ug/L	04/24/13	DD	E625/E625SIM	1
1,4-Dichlorobenzene	ND	5.0	1.5	ug/L	04/24/13	DD	E625/E625SIM	1
2,4,5-Trichlorophenol	ND	10	2.7	ug/L	04/24/13	DD	E625/E625SIM	
2,4,6-Trichlorophenol	ND	10	1.6	ug/L	04/24/13	DD	E625/E625SIM	
2,4-Dichlorophenol	ND	10	1.8	ug/L	04/24/13	DD	E625/E625SIM	
2,4-Dimethylphenol	ND	10	1.2	ug/L	04/24/13	DD	E625/E625SIM	
2,4-Dinitrophenol	ND	50	3.5	ug/L	04/24/13	DD	E625/E625SIM	
2,4-Dinitrotoluene	ND	5.0	2.0	ug/L	04/24/13	DD	E625/E625SIM	
2,6-Dichlorophenol	ND	10	5.0	ug/L	04/24/13	DD	E625/E625SIM	1
2,6-Dinitrotoluene	ND	5.0	1.6	ug/L	04/24/13	DD	E625/E625SIM	
2-Chloronaphthalene	ND	5.0	1.4	ug/L	04/24/13	DD	E625/E625SIM	
2-Chlorophenol	ND	10	1.4	ug/L	04/24/13	DD	E625/E625SIM	
2-Methylnaphthalene	ND	5.0	1.5	ug/L	04/24/13	DD	E625/E625SIM	1
2-Methylphenol (o-cresol)	ND	10	2.4	ug/L	04/24/13	DD	E625/E625SIM	1O
2-Nitroaniline	ND	50	5.1	ug/L	04/24/13	DD	E625/E625SIM	1
2-Nitrophenol	ND	10	3.2	ug/L	04/24/13	DD	E625/E625SIM	
3&4-Methylphenol (m&p-cresol)	ND	10	2.0	ug/L	04/24/13	DD	E625/E625SIM	1O
3,3'-Dichlorobenzidine	ND	50	2.4	ug/L	04/24/13	DD	E625/E625SIM	1O
3-Nitroaniline	ND	50	11	ug/L	04/24/13	DD	E625/E625SIM	1
4,6-Dinitro-2-methylphenol	ND	50	5.4	ug/L	04/24/13	DD	E625/E625SIM	
4-Bromophenyl phenyl ether	ND	5.0	1.5	ug/L	04/24/13	DD	E625/E625SIM	
4-Chloro-3-methylphenol	ND	20	1.8	ug/L	04/24/13	DD	E625/E625SIM	
4-Chloroaniline	ND	20	2.3	ug/L	04/24/13	DD	E625/E625SIM	1
4-Chlorophenyl phenyl ether	ND	5.0	1.7	ug/L	04/24/13	DD	E625/E625SIM	
4-Nitroaniline	ND	20	1.7	ug/L	04/24/13	DD	E625/E625SIM	1
4-Nitrophenol	ND	50	2.3	ug/L	04/24/13	DD	E625/E625SIM	
Anthracene	ND	5.0	1.6	ug/L	04/24/13	DD	E625/E625SIM	
Benzidine	ND	50	2.9	ug/L	04/24/13	DD	E625/E625SIM	1
Benzoic acid	ND	50	10	ug/L	04/24/13	DD	E625/E625SIM	1
Benzyl alcohol	ND	20	5.0	ug/L	04/24/13	DD	E625/E625SIM	1
Benzyl butyl phthalate	ND	5.0	1.3	ug/L	04/24/13	DD	E625/E625SIM	
Bis(2-chloroethoxy)methane	ND	5.0	1.4	ug/L	04/24/13	DD	E625/E625SIM	
Bis(2-chloroethyl)ether	ND	5.0	1.4	ug/L	04/24/13	DD	E625/E625SIM	
Bis(2-chloroisopropyl)ether	ND	5.0	1.4	ug/L	04/24/13	DD	E625/E625SIM	1
Dibenzofuran	ND	5.0	1.5	ug/L	04/24/13	DD	E625/E625SIM	1

Project ID: GM LINDEN
Client ID: LINDEN PIT

Phoenix I.D.: BD62276

Parameter	Result		RL/ PQL	LOD/ MDL	Units	Date/Time	By	Reference	
Diethyl phthalate	ND		5.0	1.6	ug/L	04/24/13	DD	E625/E625SIM	
Dimethylphthalate	ND		5.0	1.6	ug/L	04/24/13	DD	E625/E625SIM	
Di-n-butylphthalate	ND		5.0	1.3	ug/L	04/24/13	DD	E625/E625SIM	
Di-n-octylphthalate	ND		5.0	1.3	ug/L	04/24/13	DD	E625/E625SIM	
Fluoranthene	1.7	J	5.0	1.6	ug/L	04/24/13	DD	E625/E625SIM	
Fluorene	ND		5.0	1.7	ug/L	04/24/13	DD	E625/E625SIM	
Hexachlorocyclopentadiene	ND		5.0	1.5	ug/L	04/24/13	DD	E625/E625SIM	
Isophorone	ND		5.0	1.4	ug/L	04/24/13	DD	E625/E625SIM	
Naphthalene	ND		5.0	1.4	ug/L	04/24/13	DD	E625/E625SIM	B
Nitrobenzene	ND		10	1.8	ug/L	04/24/13	DD	E625/E625SIM	
N-Nitrosodimethylamine	ND		5.0	1.4	ug/L	04/24/13	DD	E625/E625SIM	
N-Nitrosodi-n-propylamine	ND		5.0	1.6	ug/L	04/24/13	DD	E625/E625SIM	
N-Nitrosodiphenylamine	ND		5.0	1.9	ug/L	04/24/13	DD	E625/E625SIM	
Phenol	ND		10	1.6	ug/L	04/24/13	DD	E625/E625SIM	
Pyrene	ND		5.0	1.7	ug/L	04/24/13	DD	E625/E625SIM	
QA/QC Surrogates									
% 2,4,6-Tribromophenol	83				%	04/24/13	DD	15 - 130 %	
% 2-Fluorobiphenyl	79				%	04/24/13	DD	30 - 130 %	
% 2-Fluorophenol	59				%	04/24/13	DD	15 - 130 %	
% Nitrobenzene-d5	77				%	04/24/13	DD	30 - 130 %	
% Phenol-d5	62				%	04/24/13	DD	15 - 130 %	
% Terphenyl-d14	68				%	04/24/13	DD	30 - 130 %	

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Date/Time	By	Reference

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.
1O = This parameter is not certified by NY NELAC for this matrix.
S = This parameter is subcontracted.
B* = Present in blank, a bias is possible.
B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quanitation) ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection MDL=Method Detection Limit

Comments:

Corrosivity is based solely on the pH analysis performed above.

Ignitability is based solely on the results of the closed cup flashpoint analysis performed above. Passed is >140 degree F.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Cyanide and Reactive Sulfide. This method is no longer listed in the current version of SW-846.

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

* See Attached.

Elevated reporting limits for volatiles due to the foamy nature of the sample.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.
This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director
May 07, 2013

16°C w/b blueice

CHAIN OF CUSTODY

IMPACT ENVIRONMENTAL
170 Keyland Court, Bohemia, New York 11716
(Tel.) 631-269-8800 (Fax) 631-269-1599

Page 1 of 2

LAB NAME: Phoenix

RECEIVED DATE: 4-19-13

Client Information

Company Name	Impact Environmental
Address	170 Keyland Court
City	Bohemia
Project Contact	Waste Analyst AND
Phone #	631-269-8800
Fax #	631-269-1599
E-mail	Analyst@impactenvironmental.com AND @impactenvironmental.com

Project Information

Project Name	GM Linden
Street	1016 W Edgar Rd
City	Linden
State	NJ
Zip	
Project #	FAC 9
Sampler's Name	Jeff Bogoin
Sampler's Signature	(signature)

Matrix Codes: L - Liquid, S - Soil, A - Air, OL - Oil, W - Wipe, PC - Paint Chips, SL - Sludge, SD - Solid, DW- Drinking Water, DISS - Dissolved

Sample Type: G=Grab, C=Composite, B=Blank

LAB SAMPLE # (LAB USE ONLY)	Sample ID	Matrix Code	Sample Type	Sample Date	Time	Total # of bottles	None	ICE	HCL	Methanol (EPA 5035)	Sodium Bisulfate (EPA 5035)	OTHER (List)	~~Impact Analytical Package A*~~ Total Metals	~~Impact Analytical Package B**~~ Total Solids	VOCs 8260 (List for NY Part 375 & NJ DCSRS)	~~SPLP (Metals / Volatiles / Semivolatiles)~~ Volatile Solids	NYCDEP Sewer Discharge Parameters	Total Suspended Solids	Volatile Suspended Solids	Biochemical Oxygen Demand	Chemical Oxygen Demand	Total Organic Carbon	Ortho Phosphates as P	(LAB USE ONLY)
1	Linden Pit	L	G	4-19-13	11:30	24			X			X	X	X		X		X	X	X	X	X	X	62276
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								

Turnaround Time (Business Days)

- [X] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *RUSH*

(LAB USE ONLY) TAT Approved By / Date

Data Deliverable Information

- [ ] Results Only (Level-1)
- [ ] Results plus Misc. QC (Level-2)
- [ ] Results plus ALL QC (Level-3)
- [ ] PA QC Package
- [ ] NJ QC Package (Level3NJ)
- [ ] CLP Category A (Level-2)
- [ ] CLP Category B (Level-4)
- [ ] ASP QC Package (Level-4)
- [ ] Other ______
- [ ] EDD Format______

(EDD Formats: Excel, pdf, EQUIS, GIS, GISKey, SPDES, Ascii, TAGM, OENJ)

REFERENCES

*Package A (proprietary) - Priority Pollutants Metals, SVOCs, PCB/Pest and Herbicides - to match all NJ DCSRS & NYS Part 375 parameters and detection limits
**Package B (proprietary) - Same as Package A, plus TCLP Metals & TPH

NOTES & DIRECTIONS TO THE LAB:

Sample custody must be documented below, each time samples change possession, with a signature, date, and time.

Relinquished by	Date / Time	Received By	Relinquished By	Date / Time	Received By
1 Relinquished by Sampler: (signature)	1 4-19-13 1515	1 (signature)	(signature)	2 4/19/13 2137	2 (signature)
3	3	3	4	4	4
5	5	5			

COOLER INFORMATION
Cooler Temp:________ pH:________ ☐ On Ice ☐ Sample Receipt Discrepancy(attach information)

Updated March 2011

16°C wbblvrice

CHAIN OF CUSTODY

IMPACT ENVIRONMENTAL
170 Keyland Court, Bohemia, New York 11716
(Tel.) 631-269-8800 (Fax) 631-269-1599

Page 2 of 2

LAB NAME: Phoenix

RECEIVED DATE: 4-19-13

Client Information

Company Name	Impact Environmental
Address	170 Keyland Court
City	Bohemia
Project Contact	Waste Analyst AND
Phone #	631-269-8800
Fax #	631-269-1599
E-mail	Analyst@impactenvironmental.com AND @impactenvironmental.com

Project Information

Project Name	GM Linden
Street	1016 W Edgar Rd
City	Linden
State	NJ
Zip	
Project #	FAC 9
Sampler's Name	Jeff Bogoian
Sampler's Signature	Jeff Bogoian

Analytical Information

Impact Analytical Package A* | Impact Analytical Package B** | VOCs 8260 (List for NY Part 375 & NJ DCSRS) | SPLP (Mark 'H' in box for 'Hold') | NYCDEP Sewer Discharge Parameters | Silica Gel treated hexane extractable material | Ammonia as NH_3 | Kjeldahl N as N | Ignitability | Corrosivity | Reactivity

Matrix Codes

L - Liquid
S - Soil
A - Air
OL - Oil
W - Wipe
PC - Paint Chips
SL - Sludge
SD - Solid
DW- Drinking Water
DISS - Dissolved

Sample Type

G=Grab
C=Composite
B=Blank

LAB SAMPLE # (LAB USE ONLY)	Sample Information: Sample ID	Sample Collection: Matrix Code	Sample Type	Sample Date	Time	Sample Containers: Total # of bottles	None	ICE	HCL	Methanol (EPA 5035)	Sodium Bisulfate (EPA 5035)	OTHER (List)	(LAB USE ONLY)
1	Linden Pit	L	G	4-19-13	11:30	24			X			X	622760
2													
3													
4													
5													
6													
7													
8													
9													
10													

Turnaround Time (Business Days)

- [X] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *RUSH*

(LAB USE ONLY)
TAT Approved By / Date:

Data Deliverable Information

- [ ] Results Only (Level-1)
- [ ] Results plus Misc. QC (Level-2)
- [ ] Results plus ALL QC (Level-3)
- [ ] PA QC Package
- [ ] NJ QC Package (Level3NJ)
- [ ] CLP Category A (Level-2)
- [ ] CLP Category B (Level-4)
- [ ] ASP QC Package (Level-4)
- [ ] Other _____
- [ ] EDD Format _____

(EDD Formats: Excel, pdf, EQUIS, GIS, GISKey, SPDES, Ascii, TAGM, OENJ)

REFERENCES

*Package A (proprietary) - Priority Pollutants Metals, SVOCs, PCB/Pest and Herbicides - to match all NJ DCSRS & NYS Part 375 parameters and detection limits
**Package B (proprietary) - Same as Package A, plus TCLP Metals & TPH

NOTES & DIRECTIONS TO THE LAB:

Sample custody must be documented below, each time samples change possession, with a signature, date, and time.

	Relinquished by Sampler:	Date / Time:	Received By:	Relinquished By:	Date / Time:	Received By:
1	Jeff Bogoian	4/19/13 5:00			4-19-13 21:37	
2						
3	Relinquished by: Jeff Bogoian	Date / Time:	Received By:	Relinquished By:	Date / Time:	Received By:
4						
5	Relinquished by:	Date / Time:	Received By:	COOLER INFORMATION		

Cooler Temp:_____ pH:_____ ☐ On Ice ☐ Sample Receipt Discrepancy(attach information)

Updated March 2011

D31037

1105413

Manifest Number: A 0299564

Customer Number: 8FV

PVSC Decal Number: 861

PASSAIC VALLEY SEWERAGE COMMISSIONERS
600 WILSON AVENUE
NEWARK, NJ 07105

Phone: (973) 466-2567 • Fax: (973) 466-3194

LIQUID WASTE ACCEPTANCE MANIFEST

GENERATOR NAME: IMPACT ENVIRONMETAL

GENERATOR ADDRESS: 170 KEYLAND CT

BOHEMIA NY 117162638

GENERATOR PHONE NUMBER: 631-263-8800

TRANSPORTER: RUSSELL REID

COMPANY NAME: 200 SMITH ST

ADDRESS: KEASBEY NJ 08832

PHONE NUMBER: 800-356-4468

N.J.D.E.P. ID. #: 7911

Trailer License #: TJL 970

Trailer Number #: ~~627~~ 695

Trailer Capacity (In gallons): 7,000

Solid Waste Admin Registration #: 4130

GENERATOR CERTIFICATION: I, an authorized representative of the above listed waste generator, do hereby certify that the waste delivered hereby contains only waste approved by the PVSC.

MICHAEL J. MILES	Michael J Miles	5/21/13
Name (print/typed)	Signature	Month / Day / Year

TRANSPORTER CERTIFICATION: I, an authorized representative of the above listed transporter, do hereby certify that the waste, which I have delivered to the PVSC, contains only the waste originated from the generator listed above.

CHAMBID WALD	[signature]	5-21-13
Name (print/typed)	Signature	Month / Day / Year

PVSC facility/operator certification of receipt of waste:

MZ	MZ	5/21/13
Name (print/typed)	Signature	Month / Day / Year

SAMPLE ID #: 54 TIME IN: 910 AM PM TIME OUT: ______ AM PM

White copy-PVSC Operations *Yellow Copy-PVSC Finance* *Pink Copy-Transporter* *Gold Copy-Generator*

Manifest Number: A 0299563

Customer Number: 81V

PVSC Decal Number: 861

5-21-13

1105413

PASSAIC VALLEY SEWERAGE COMMISSIONERS
600 WILSON AVENUE
NEWARK, NJ 07105

Phone: (973) 466-2567 • Fax: (973) 466-3194

LIQUID WASTE ACCEPTANCE MANIFEST

GENERATOR NAME: IMPACT ENVIRONMENTAL

GENERATOR ADDRESS: 170 LAYLAND CT

BOHEMIA NY 117162638

GENERATOR PHONE NUMBER: 631-269-8800

TRANSPORTER: RUSSELL REID

COMPANY NAME: 200 SMITH ST

ADDRESS: KEASBEY NJ 08832

PHONE NUMBER: 800-356-4468

N.J.D.E.P. ID. # 7911

Trailer License # TJL 97U

Trailer Number # 695

Trailer Capacity (In gallons) 7,000

Solid Waste Admin Registration # 4130

GENERATOR CERTIFICATION: I, an authorized representative of the above listed waste generator, do hereby certify that the waste delivered hereby contains only waste approved by the PVSC.

MICHAEL J MILES	Michael J Miles	5/21/13
Name (print/typed)	Signature	Month / Day / Year

TRANSPORTER CERTIFICATION: I, an authorized representative of the above listed transporter, do hereby certify that the waste, which I have delivered to the PVSC, contains only the waste originated from the generator listed above.

CLAUDIO WALD	[signature]	5-21-13
Name (print/typed)	Signature	Month / Day / Year

PVSC facility operator certification of receipt of waste:

[illegible]	[signature]	5-21-13
Name (print/typed)	Signature	Month / Day / Year

SAMPLE ID # 1445 TIME IN 1154 AM PM TIME OUT _____ AM PM

White copy-PVSC Operations *Yellow Copy-PVSC Finance* *Pink Copy-Transporter* *Gold Copy-Generator*

331056
1105413

Manifest Number: A 0299562

Customer Number: 81V

PVSC Decal Number: 861

PASSAIC VALLEY SEWERAGE COMMISSIONERS
600 WILSON AVENUE
NEWARK, NJ 07105
Phone: (973) 466-2567 • Fax: (973) 466-3194

LIQUID WASTE ACCEPTANCE MANIFEST

GENERATOR NAME: IMPACT ENVIRONMENTAL
GENERATOR ADDRESS: 170 LEVLAND CT
BOHEMIA NY 117162638
GENERATOR PHONE NUMBER: 631-269-8300

TRANSPORTER: RUSSELL REID
COMPANY NAME: 200 SMITH ST
ADDRESS: KEASBEY NJ 08832
PHONE NUMBER: 800-356-4468

N.J.D.E.P. ID. # 7911
Trailer License # TJL 970
Trailer Number # 695
Trailer Capacity (In gallons) 7000
Solid Waste Admin Registration # 4130

GENERATOR CERTIFICATION: I, an authorized representative of the above listed waste generator, do hereby certify that the waste delivered hereby contains only waste approved by the PVSC.

Name (print/typed)	Signature	Month / Day / Year
MICHAEL J. MILES		05/21/13

TRANSPORTER CERTIFICATION: I, an authorized representative of the above listed transporter, do hereby certify that the waste, which I have delivered to the PVSC, contains only the waste originated from the generator listed above.

Name (print/typed)	Signature	Month / Day / Year
CHARLIE NAIL		5-21-13

PVSC facility operator certification of receipt of waste: (N)

Name (print/typed)	Signature	Month / Day / Year
Brian Williams		5-21-13

SAMPLE ID # 35 TIME IN 9:09 AM PM TIME OUT _____ AM PM

White copy-PVSC Operations *Yellow Copy-PVSC Finance* *Pink Copy-Transporter* *Gold Copy-Generator*